

REMARKS/ARGUMENTS

STATUS OF THE CLAIMS

In the Office Action mailed September 29, 2005, claims 7, 10, 14, 15, and 19-21 stand rejected. Claims 11-13 were objected to. These rejections and objections are respectfully traversed. Claim 12 has been amended to reflect proper dependency. Claims 19 and 20 have been amended. New claim 22 has been added and does not contain new matter. Thus, claims 12-15 and 19-22 are pending. Claims 7, 10, and 11 are cancelled without prejudice or disclaimer.

Applicants have thoroughly reviewed the outstanding Office Action including the Examiner's remarks and the referenced cited therein. The following remarks are believed to be fully responsive to the Office Action. All the pending claims at issue are believed to be patentable over the cited references. Reconsideration and withdrawal of the outstanding rejections are respectfully requested in view of the following remarks.

CLAIM REJECTIONS – 35 U.S.C. §102

Examiner rejected claim 14 and 19 under 35 U.S.C. §102(b) as being anticipated by *Scrine et al.*, United States Patent No. 4,240,266 (referred hereinafter as “*Scrine*”). Applicants respectfully traverse this rejection.

For anticipation under 35 U.S.C. §102 the reference must teach every aspect of the claimed invention either explicitly or implicitly. Any feature not directly taught must be inherently present. M.P.E.P. § 706.02(a).

A) Rejection of Claim 14 as being anticipated by *Scrine et al.*

Claim 14 recites, in part, “an evaporator heat exchanger having a first flow path for a gas at a first temperature and a second flow path for circulation of a **refrigerant at a second**

temperature. . . a temperature sensor positioned in said evaporator heat exchanger at a **single location to sense** a fourth temperature which is representative of said third temperature when a gas load is above a certain level, and representative of **said second temperature** when said gas load is below said certain level... .” While the Examiner is correct in recognizing that *Scrine* discloses a sensor comprising a thermometer bulb 16, *Scrine* does not, however, disclose a thermometer that measures the refrigerant temperature (i.e., the “second temperature” in claim 14), let alone one that measure refrigerant temperature when there is no gas flow. In fact, the thermometer bulb of *Scrine* is situated “at a point where air is passed into a refrigerated space having been cooled by its passage over the evaporator.” (Col. 3, lines 22-23.) Moreover, “[i]t [was] found that locating the bulb at this point allows the optimum control of the temperature of the gas throughout the space.” See col. 3, lines 21-28. In other words, the thermometer bulb in *Scrine* does not measure refrigerant temperature, but rather the temperature of the cooled gas that passed over the evaporator that had in it refrigerant.

Accordingly, at least because *Scrine* does not identically disclose the single location of a temperature sensor for sensing both gas and refrigerant temperature, *Scrine* does not identically disclose the subject matter of claim 14. Applicant, therefore, respectfully requests that this rejection be withdrawn.

B) Rejection of Claim 19 as being anticipated by *Scrine et al.*

Claim 19 recite, in part, “a controller connected to receive feed back from said temperature sensor indicative of said temperature of said compressed gas at said outlet of said first flow path, said controller controlling a temperature of said refrigerant at an inlet of said second flow path to generally maintain said temperature of said compressed gas at said outlet of said first flow path at a desired value.” While the Examiner is correct in recognizing that *Scrine*

discloses a controller 15, *Scrine* does not, however, disclose a controller that receives information from a temperature sensor and in turn controls the temperature of a refrigerant. In fact, “[t]he valve 14 is controlled by controller 15 whose sensor is a thermometer bulb 16.” See col. 3, lines 18-19.

Furthermore, unlike the present invention, the valve disclosed in *Scrine* is the type used to control pressure, “the valve is desirably of the balanced pressure type, i.e. means are provided for balancing the forces exerted on the valve closure means due to the pressure differential between either side thereof.” See col. 1, 48-51. Here, the controller in claim 19 is used to control temperature not pressure.

Accordingly, at least because *Scrine* does not identically disclose the controller for controlling temperature, *Scrine* does not identically disclose the subject matter of claim 19. Applicants, therefore, respectfully request that this rejection be withdrawn.

C) Rejection of Claims 7 and 19 as being anticipated by *Vanderstraeten et al.*

Examiner rejected claims 7 and 19 under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over *Vanderstraeten* (EP 1,103,296). Applicants respectfully traverse this rejection. Applicants have cancelled claim 7.

Claim 19 recites, in part, “A compressed gas dryer having a heat exchanger . . . comprising: a temperature sensor to sense a temperature of said compressed gas at an outlet of said first flow path; a controller connected to receive feed back from said temperature sensor indicative of said temperature of said compressed gas at said outlet of said first flow path, said controller controlling a temperature of said refrigerant at an inlet of said second flow path to generally maintain said temperature of said compressed gas at said outlet of said first flow path

at a desired value; said temperature sensor of said compressed gas at said outlet of said first flow path being positioned in said heat exchanger at a single location; a temperature sensed at said single location being representative of **said temperature of said compressed gas** at said outlet of said first flow path when a compressed gas load is above a certain level; and said temperature sensed at said single location being representative of **said temperature of said refrigerant** at said inlet of said second flow path when said compressed gas load is below said certain level.”

While the Examiner is correct that *Vanderstraeten* discloses a device comprising a temperature sensor (25) to sense the temperature at an outlet of the first flow path, *Vanderstraeten* does not disclose a temperature sensor at a single location that can sense the temperature of a compressed gas and the temperature of a refrigerant. More specifically, the temperature sensor in *Vanderstraeten* is used to measure the lowest air temperature (LAT). (See col. 11, lines 28-29; and FIG. 2.) Furthermore, *Vanderstraeten* discusses the importance of measuring this LAT, “[t]he measurement of the LAT renders the important advantage that the temperature of the cooling fluid can be lower than 0°C without a freezing-up of the evaporator, in other words, before ice is being formed at the air of the evaporator, as this phenomenon is determined by the LAT.”

Therefore, *Vanderstraeten* does not anticipate this invention, or in the alternative, as being obvious over this invention because *Vanderstraeten* does not teach or suggest, *inter alia*, a compressed gas dryer having at least, “said temperature sensor of said compressed gas at said outlet of said first flow path being positioned in said heat exchanger at a single location; a temperature sensed at said single location being representative of said temperature of said compressed gas at said outlet of said first flow path when a compressed gas load is above a certain level; and said temperature sensed at said single location being representative of said

temperature of said refrigerant at said inlet of said second flow path when said compressed gas load is below said certain level,” as recited in claim 19.

For anticipation under 35 U.S.C. §102 the reference must each every aspect of the claimed invention either explicitly or implicitly. Any feature not directly taught must be inherently present (M.P.E.P. 706.02). Since each and every element, as set forth in the claim, is not found either expressly or inherently described as required by the M.P.E.P., *Vanderstraeten* cannot be said to anticipate the present invention, as recited in claim 19. Hence, withdrawal of the rejection is respectfully requested.

CLAIM REJECTIONS – 35 U.S.C. §103

Examiner rejected claim 15, 20 and 21 under 35 U.S.C. §103(a) as being unpatentable over *Scrine* in view of *Beaverson et al.*, United States Patent No. 6,427,464 (referred hereinafter as “*Beaverson*”).

In order for a §103 rejection to be proper, each element of the claim invention must be taught or suggested in the combination of references. For the reasons discussed above in connection with the §102 rejection of independent claim 14, from which claim 15 depends, *Scrine* is deficient in at least that it does not teach a specific location of the temperature sensor or a sensor that measures refrigerant temperature. Assuming, *arguendo*, that the combination of *Scrine* and *Beaverson* is proper, such a combination would not overcome *Scrine*’s deficiency. For at least this reason, Applicants respectfully submits that claim 15 is patentable over the combination of *Scrine* and *Beaverson* and requests that this §103 rejection be withdrawn.

Furthermore, for the reasons discussed above in connection with the §102 rejection of independent claim 19, from which claims 20 and 21 depend, *Scrine* is deficient in at least that it

does not teach a controller that receives information from a temperature sensor and in turn controls the temperature of a refrigerant. Assuming, *arguendo*, that the combination of *Scrine* and *Beaverson* is proper, such a combination would not overcome *Scrine*'s deficiency. For at least this reason, Applicants respectfully submits that claims 20 and 21 are patentable over the combination of *Scrine* and *Beaverson* and requests that this §103 rejection be withdrawn.

ALLOWABLE SUBJECT MATTER

Applicants thank the Examiner for the indication that claims 11-13 would be allowable if rewritten in independent form to include all the limitations of the base claim and any intervening claims. In accordance with the Examiner's suggestion, Applicants have rewritten claim 11 in independent form as shown in claim 22. Claim 12 is amended to ensure that it depends directly from claim 22. Thus, claims 12, 13 and 22 should be in condition for immediate allowance.

CONCLUSION

In view of the foregoing remarks, Applicants respectfully request that all the objections and rejections to the claims be removed and that the claims pass to allowance. If, for any reason, the Examiner disagrees, please call the undersigned attorney at 202-861-1780 in an effort to resolve any matter still outstanding before issuing another action. The undersigned attorney is confident that any issue which might remain can readily be worked out by telephone.

In the event this paper is not timely filed, Applicants petition for an appropriate extension of time. Please charge any fee deficiencies or credit any overpayments to Deposit Account No. 50-2036 with reference to our Docket No. 87431.1780.

Respectfully submitted,
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